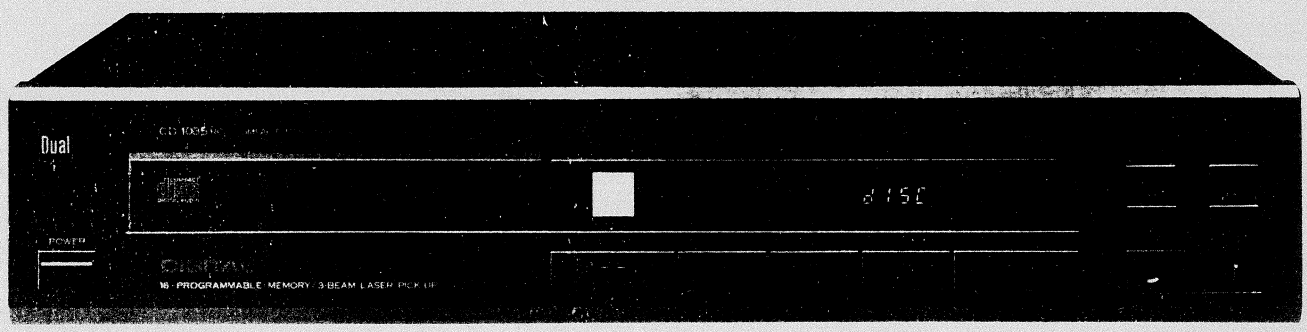
Dual

Service-Anleitung
Service Manual
Instructions de Service

CD 1028
CD 1035 RC



Technische Daten Meßwerte = typische Werte	**Technical data** Measured values = typical values	**Caractéristiques techniques** Valeurs mesurées = valeurs typiques	**Dati tecnici** Valori di misuri = valori tipici	
Frequenzbereich	**Frequency response**	**Courbe de réponse**	**Banda do Frequenza**	10–20 000 Hz
Geräuschspannungsabstand	**Signal to noise ratio**	**Rapport signal/bruit**	**Rapporto segnale disturbo**	95 dB
Dynamikbereich	**Dynamic range**	**Dynamique**	**Dinamica**	95 dB
Übersprechdämpfung (1 kHz)	**Crosstalk (1 kHz)**	**Diaphonie (1 kHz)**	**Diafonia**	90 dB
Klirrfaktor (1 kHz)	**Harmonic distortion (1 kHz)**	**Distorsion harmonique (1 kHz)**	**Distorsione atmonica**	0,008 %
Gleichlaufschwankungen	**Wow and flutter**	**Tolérance de vites**	**Toleranza di velocità**	> 0,001 %
Ausgangsspannung	**Output voltage**	**Tension de sortie**	**Tensione di uscita**	2 V
Max. programmierbare Musiktitel	**Max. music title programming**	**Titres de musique au max. programmé**	**Programmazione di pezzi musicale**	16
D/A Wandler	**D/A Converter**	**D/A Convertisseur**	**Quantizzazione**	16 Bit linear (Single)
Abtastfrequenz	**Sampling frequency**	**Fréquence de pick-up**	**Frequenza di campionatura**	88,2 kHz
Abtastsystem	**Pick up**	**Pick up**	**Testina di lettura**	3-Strahl-Laser 3-beam optical pick up
Leistungsaufnahme	**Power consumption**	**Consommation**	**Potenza assorbita**	15 W
Netzspannung	**Mains voltage**	**Tension secteur**	**Tensione di rete**	220 V (240 V) 50 Hz

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921 583 1089

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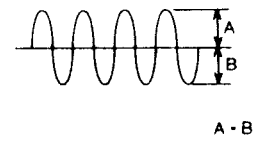
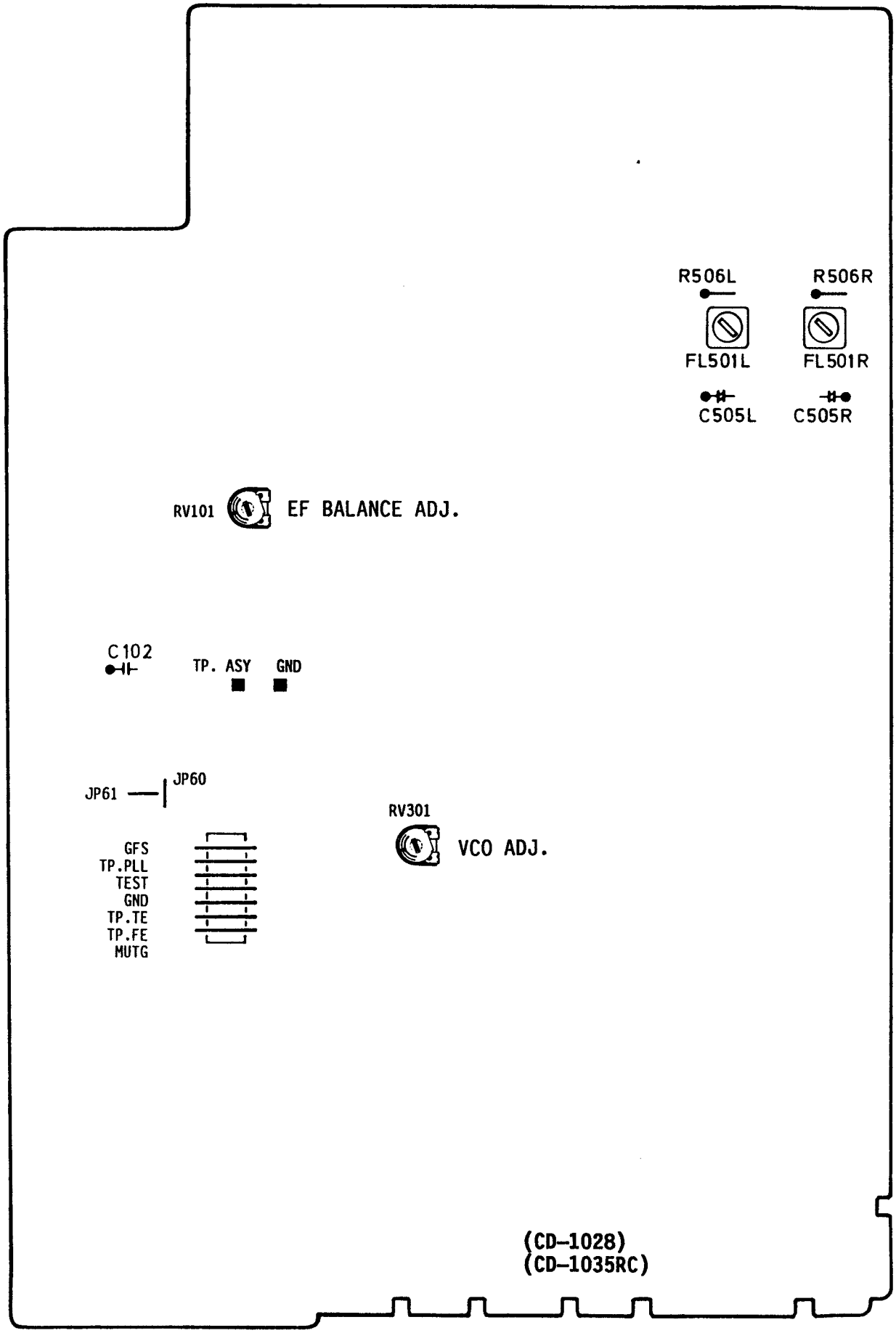
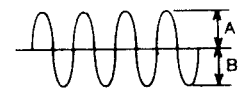
Abgleichanleitung CD 1028/1035 RC

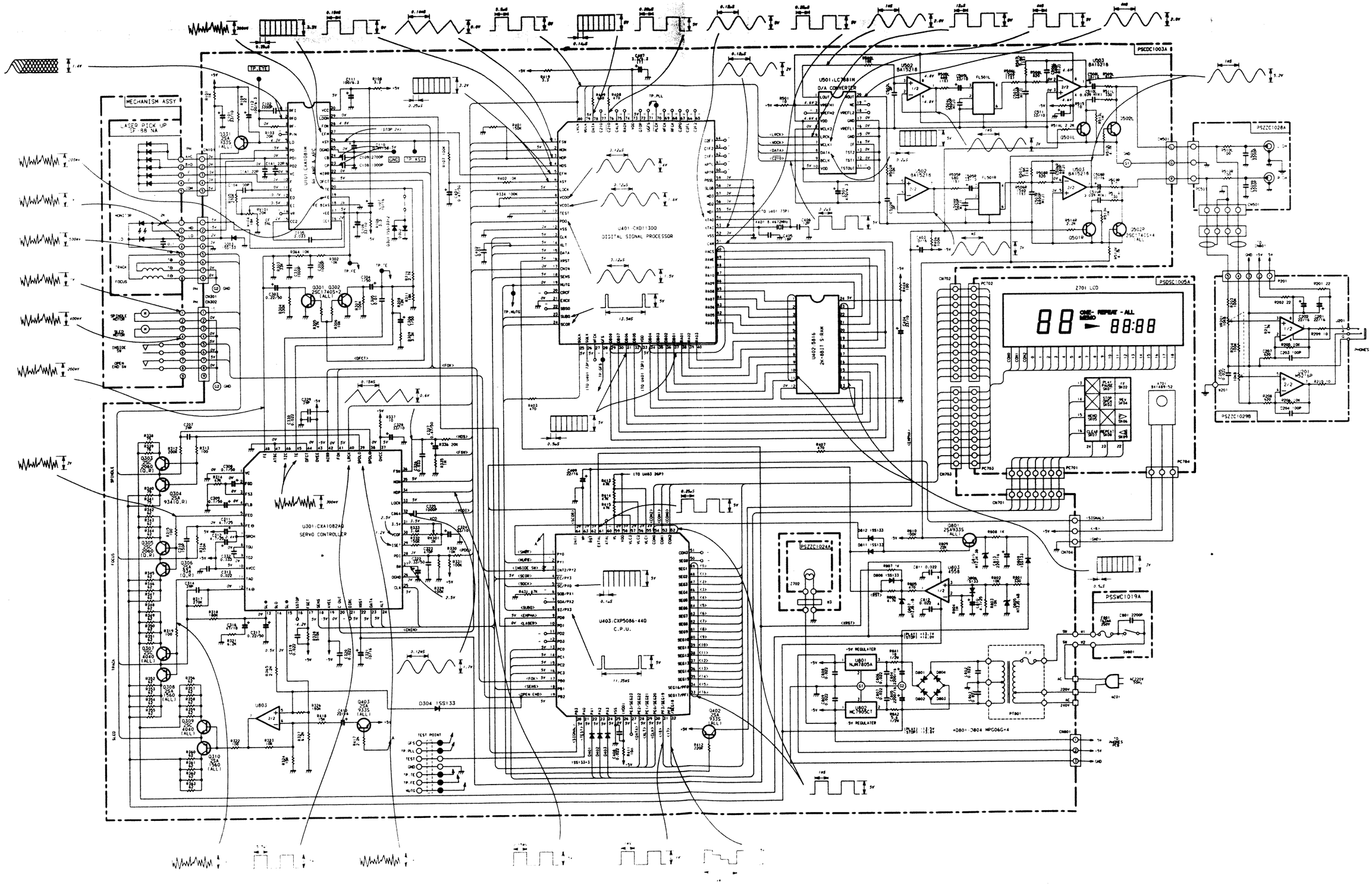
Signalquelle Signal source	Einstellung Gerät Unit adjustment	Meßgerät Anschluß Testgear connection	Abgleichposition Alignment position	Abgleich, Bemerkung Alignment, Remarks
	PLL			
	Power: On 1. TP. ASY mit GND brücken Bridge over TP. ASY with GND	Frequenzzähler an TP-PLL Frequency counter to TP-PLL	RV 301	4,321 MHz ± 10 kHz
	2. Brücke entfernen remove jumber			
	EF-Balance			
Test Sample 5 A	1. Lötbrücke JP 60–JP 61 auftrennen Cut off the soldering JP 60–JP 61 2. Play 3. TEST mit GND brücken Bridge over TEST with GND 4. Repeattaste drücken Press button REPEAT Display: ONE-REPEAT	Oscilloscope an/to TP–TE	RV 101	 A - B
	Nach Abgleich: Brücke JP 60–JP 61 verbinden Brücke TEST-GND trennen after Alignment: Bridge over JP 60–JP 61 Remove jumper TEST–GND			
	LPF (Low Pass Filter)			
Tongenerator 24 kHz 1 Vss an/to C 505 L	Power: off	Oscilloscope an/to R 506 L	FL 501 L	Minimum
C 505 R		R 506 R	FL 501 R	
	Test (nach Austausch des Pick-up) test (after change of pick up)			
	EFM-Signal			
Disc	Play	Oscilloscope an/to C 102	Regler an Pick-up Controller to pick up	1,4 Vss
	nach Austausch des Disc-Motors after change of disc motor			
	Abstand Plattentelleroberkante – Chassis distance platter upper edge – chassis 13,7 mm			
Endkontrolle: Testsample 5 A Titel Nr. 9 und 17 **Final test:** Play titel no. 9 and 17				


R506L
R506R
FL501L
FL501R
C505L
C505R
RV101
EF BALANCE ADJ.
C102
TP. ASY
GND
JP61
JP60
RV301
VCO ADJ.
GFS
TP.PLL
TEST
GND
TP.TE
TP.FE
MUTG
(CD-1028)
(CD-1035RC)

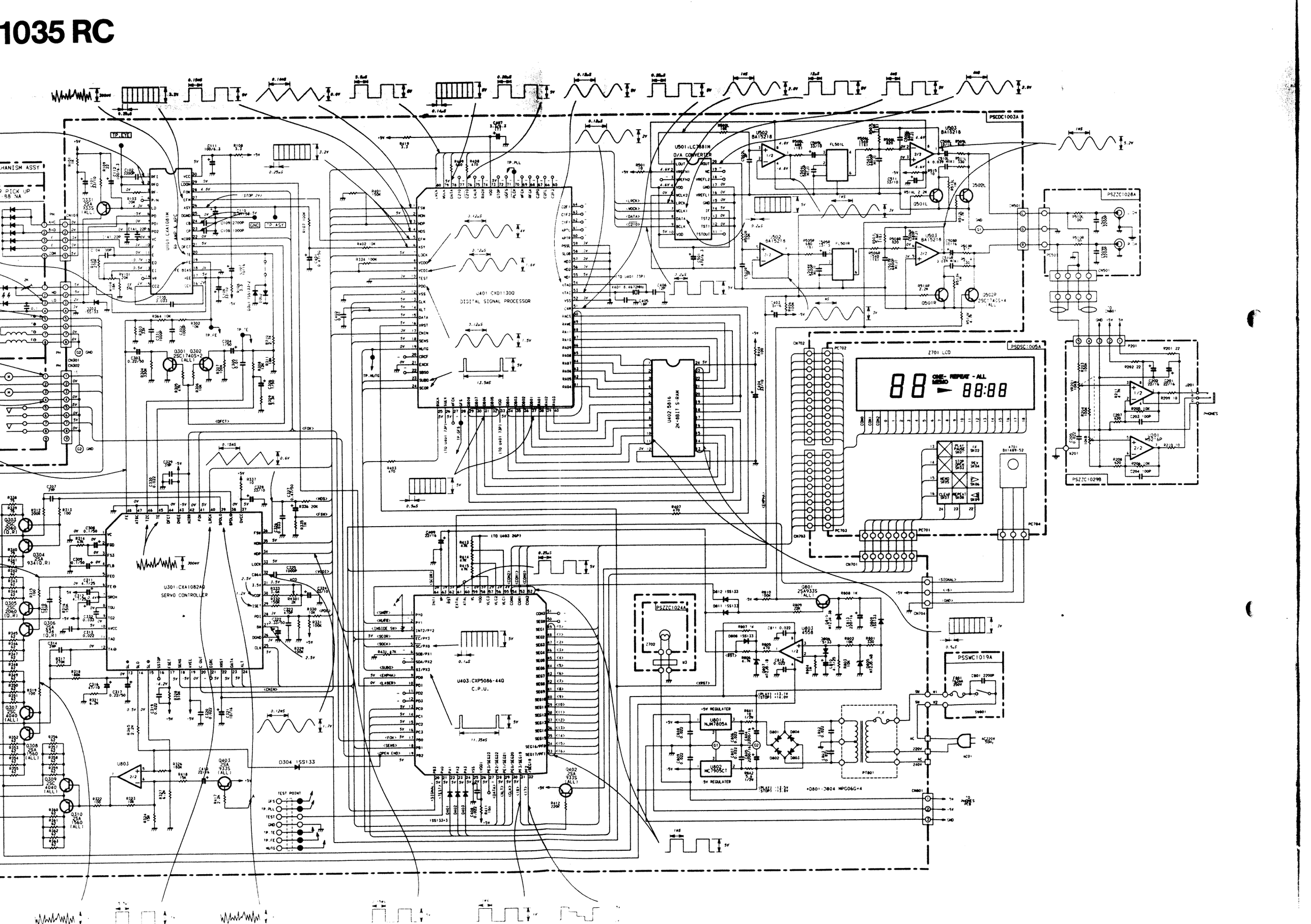
Reglages · Reglazione · CD 1028/CD 1035 RC

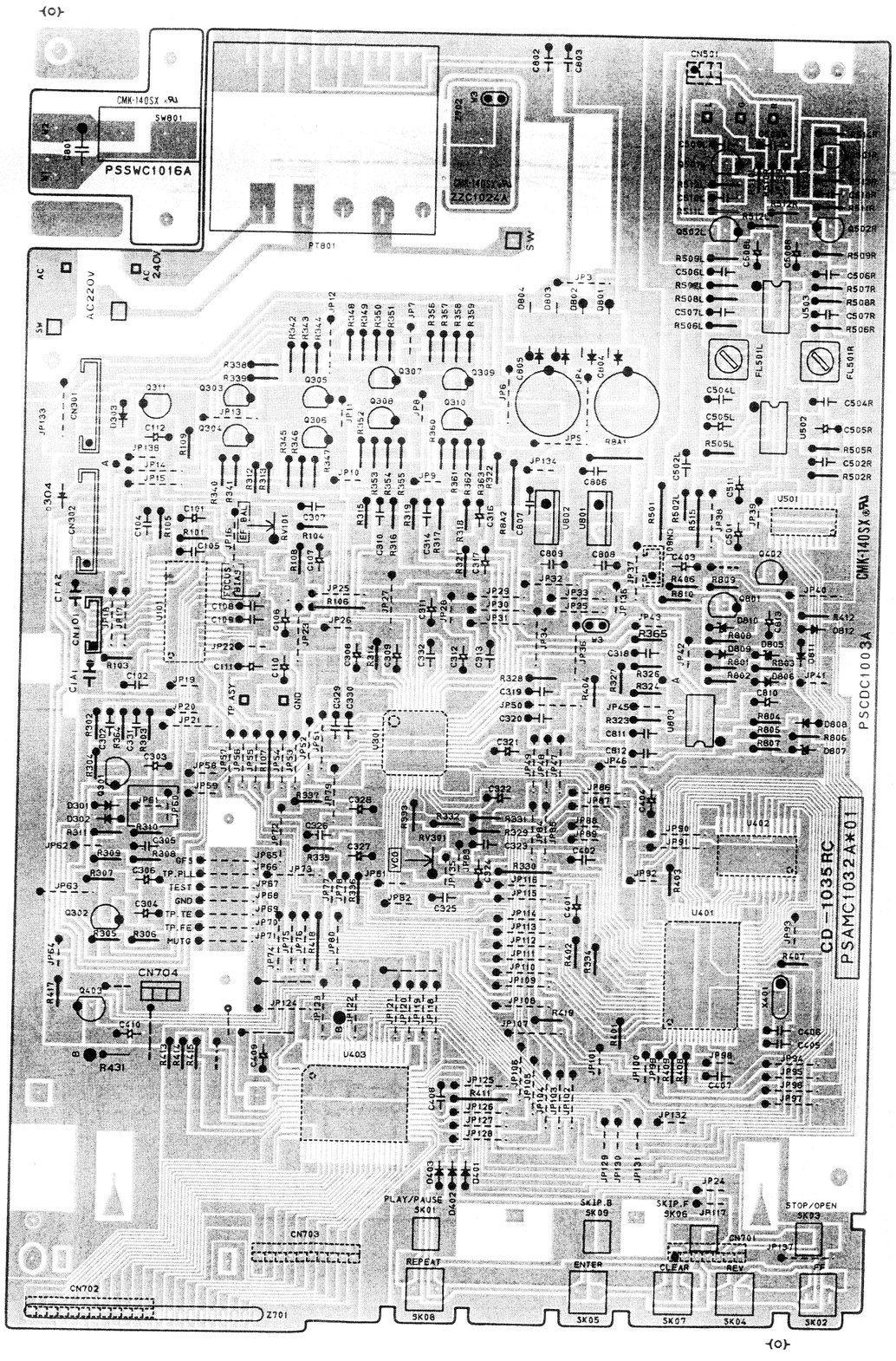
Source de signal Fonte segnale	Réglage de l'appareil Apparecchio a tarare	Branchement de l'appareil de mesure Collegamento strumento misurazione	Position d'alignement Posizione di taratura	Remarque d'alignement Osservazioni sulla taratura
	PLL			
	Power: ON 1. Ponter TP, ASY, avec GND 1. Ponticellare TP, ASY, con GND	Compteur de fréquences en TP-PPL Contatore frequenza su TP-PPL	RV 301	4,321 MHz ± 10 kHz
	2. Enlever le pont 2. Togliere il ponte			
	EF-Balance			
Echantillon de test 5 A Test Sample 5 A	1. Couper la liaison JP 60–JP 61 avec un fer à souder 1. Dissaldare ponte JP 60–JP 61 2. Play (marche) 2. Play 3. Ponter TEST avec GND 3. Ponticellare TEST con GND 4. Appuyer sur la touche REPEAT (répétition) 4. Premere il tasto REPEAT Affichage: ONE REPEAT Display: ONE-REPEAT	Oscilloscope en TP–TE Oscilloscopio a TP–TE	RV 101	A = B  A - B
	Apprès l'alignement: ponter JP 60–JP 61 couper le pont TEST–GND Dopo la taratura: collegare il ponte JP 60–JP 61 dissaldare il ponte TEST–GND			
	LPF (Low Pass Filter) (Filtre passe-bas) LPF (filtro passabasso)			
Générateur de son 24 kHz 1 Vcc en C 505 L Generatore audio 24 kHz 1 Vss su C 505 L	Power: off	Oscilloscope en R 506 L Oscilloscopio a R 506 L	FL 501 L	Minimum
C 505 R		R 506 R	FL 501 R	
	Test (après changement du pick-up) Test (dopo la sostituzione del Pick-up)			
	EFM-Signal			
Disc Disco	Play (marche) Play	Oscilloscope en C 102 Oscilloscopio su C 102	Réglage en pick-up Regulatore sul Pick-up	1,4 Vss 1,4 pp
	après changement du disque-motor dopo la sostituzione del motor disco			
	Distance plateau à disques au bord supérieur-chassis Distanzia dal porto superiore piatto del disco al delaio	13,7 mm		
Contrôle final: échantillon de test 5 A, lecture des titres 9 et 17 Controllo finale: Test Sample 5 A Titolo N° 9 e 17				

CD 1035 RC

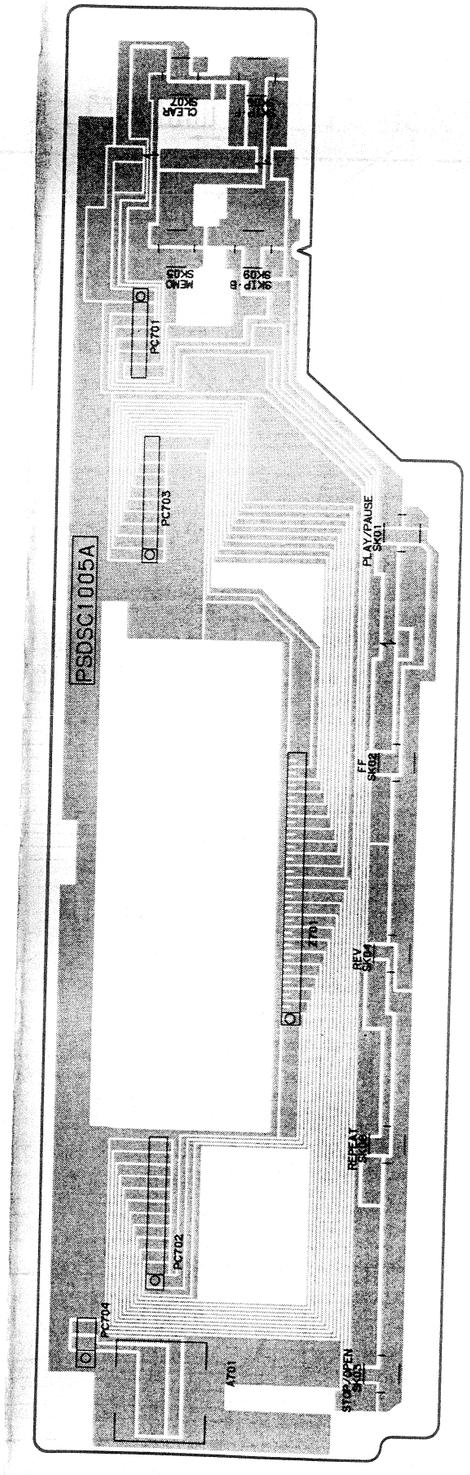

MECHANISM ASSY
LASER PICK UP
SF-98 NA
U101 CXA1081M
SP, SLED & APC
U301 CXA1082AQ
SERVO CONTROLLER
U401 CXD1130Q
DIGITAL SIGNAL PROCESSOR
U403 CXP5066-440
C.P.U.
U402 5616
2K-WORD S RAM
U501 LC7881M
D/A CONVERTER
U502 BA15218
U503 BA15218
Z701 LCD
PSDSC1005A
PSZZC1028A
PSZZC1029B
PSZZC1024A
PSSWC1019A
PT801
+5V REGULATOR
U801 NJM7805A
U802 MC7905CT
TEST POINT
TP_PLL
TP_TE
TP_FE
TP_MUTG
TP_EYE
TP_ASY
PHONES

1035 RC

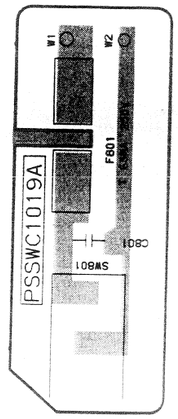

U401:CXD1130Q
DIGITAL SIGNAL PROCESSOR
U403:CXP5086-440
C.P.U.
U301:CXA1082AQ
SERVO CONTROLLER
U501:LC7881M
D/A CONVERTER
U402 5816
2K-4BIT S-RAM
Z701 LCD
PSDSC1003A
PSDSC1005A
PSZZC1028A
PSZZC1029B
PSZZC1024A
PSSWC1019A
U801
NJM7805A
5V REGULATOR
U802
MC7905C1
-5V REGULATOR
+5V REGULATOR
PT801
TEST POINT
TP.EYE
TP.PLL
TP.ASY
TP.TE
TP.FE
TP.MUTG
PHONES



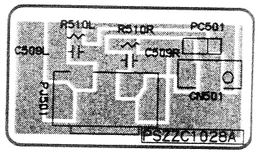
Displayplatte
Display board



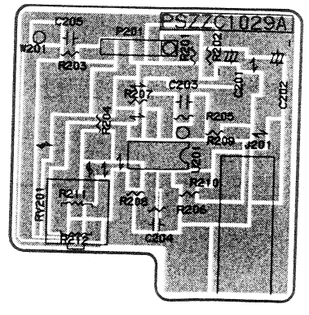
Netzschalterplatte
Power switch board



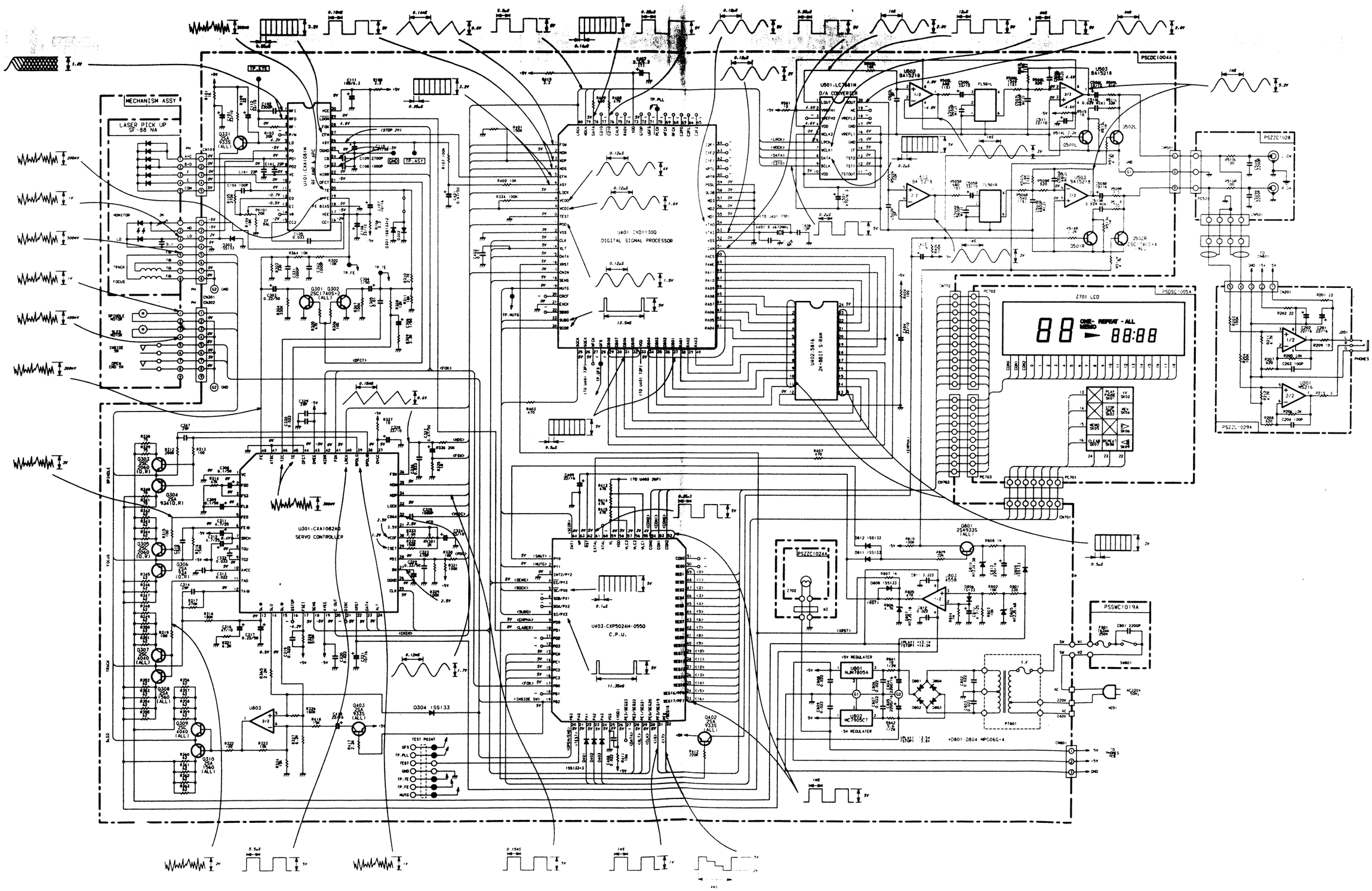
Buchsenplatte
Connection board

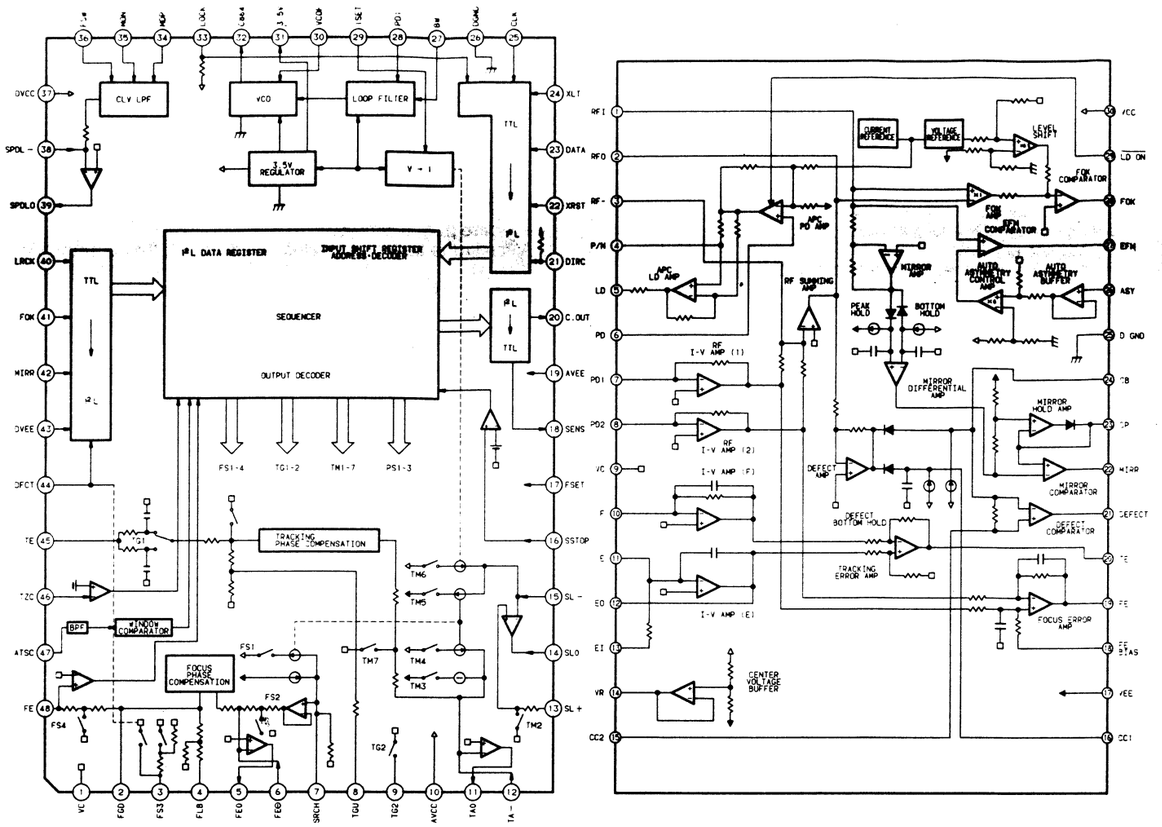


Kopfhörerplatte
Head phone board



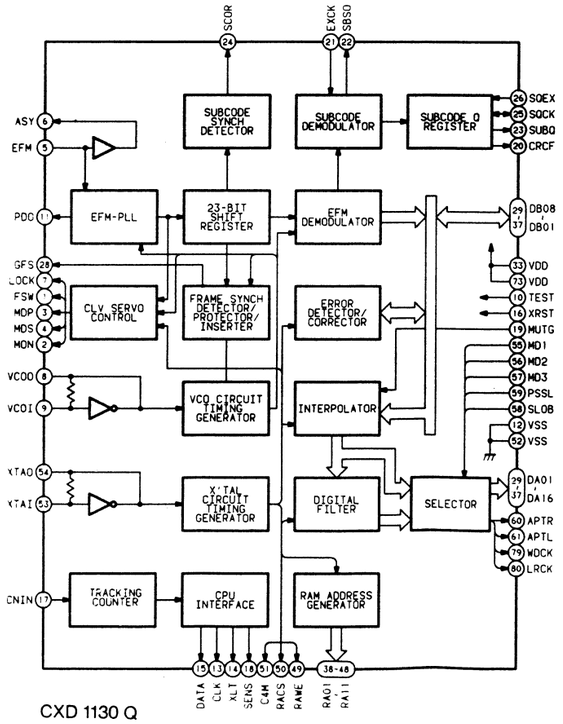
CD 1028


MECHANISM ASSY
LASER PICK UP
SF-88 NA
U301:CXA1082AQ
SERVO CONTROLLER
U401:CXD1130Q
DIGITAL SIGNAL PROCESSOR
U403:CXP5024H-0550
C.P.U.
U501:LC7581M
D/A CONVERTER
U402:5816
2K×8BIT S-RAM
Z701 LCD
PSCDC1004A
PSZZC1028
PSZZL1029A
PSZZC1024A
PSSWC1019A
+5V REGULATOR
NJM7805A
MC7905CT
-5V REGULATOR
TEST POINT
PHONES
AC220V 50Hz



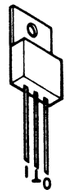
CXA 1082 Q

CXA 1081 M



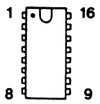
CXD 1130 Q

2SC 1740 S
2SC 2060 Q
2SA 934 R
2SA 933 S
2SA 1560
2SC 4040

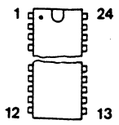


NJM 78M 05A
MC 7905 CT

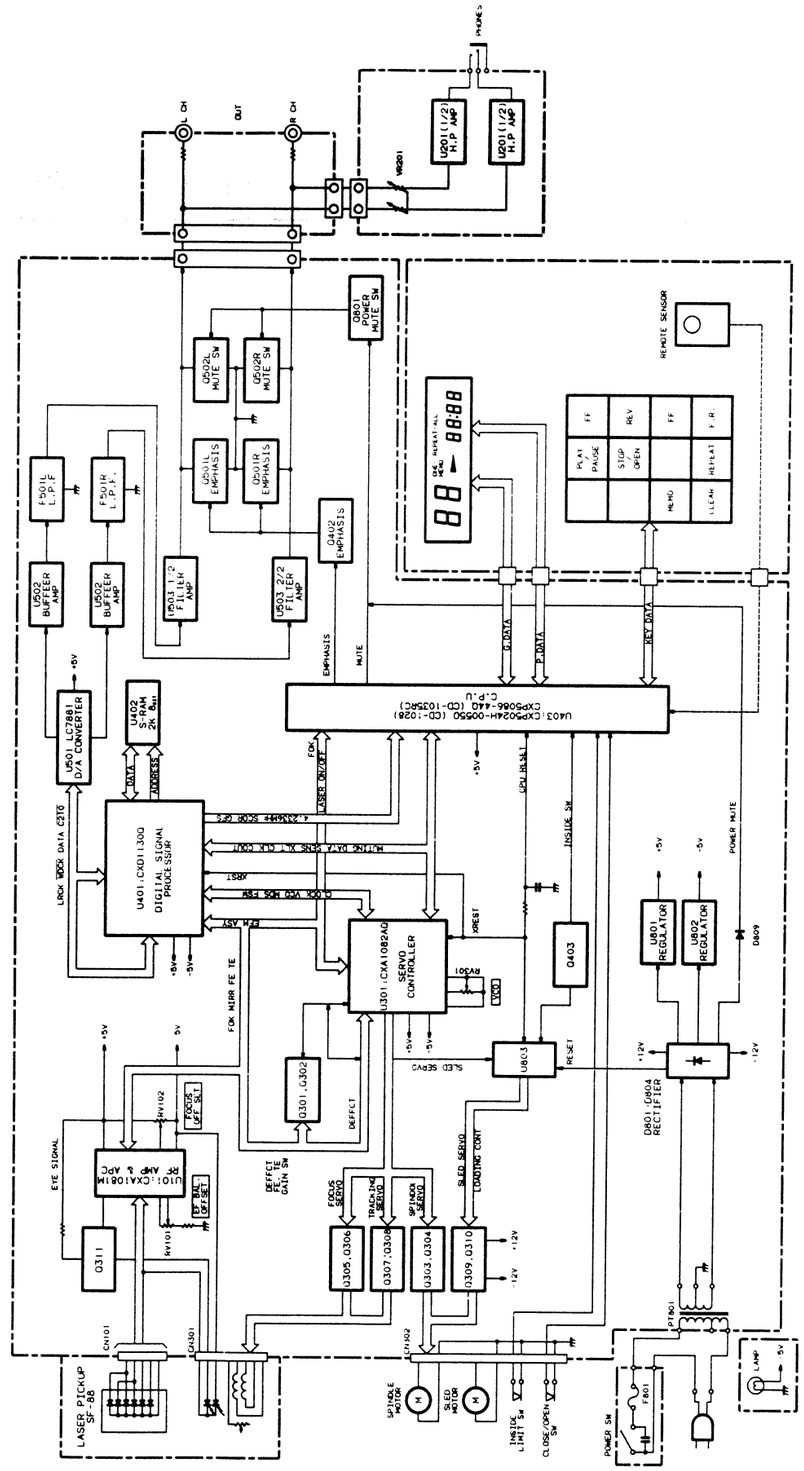
BA 15218
PC 4558

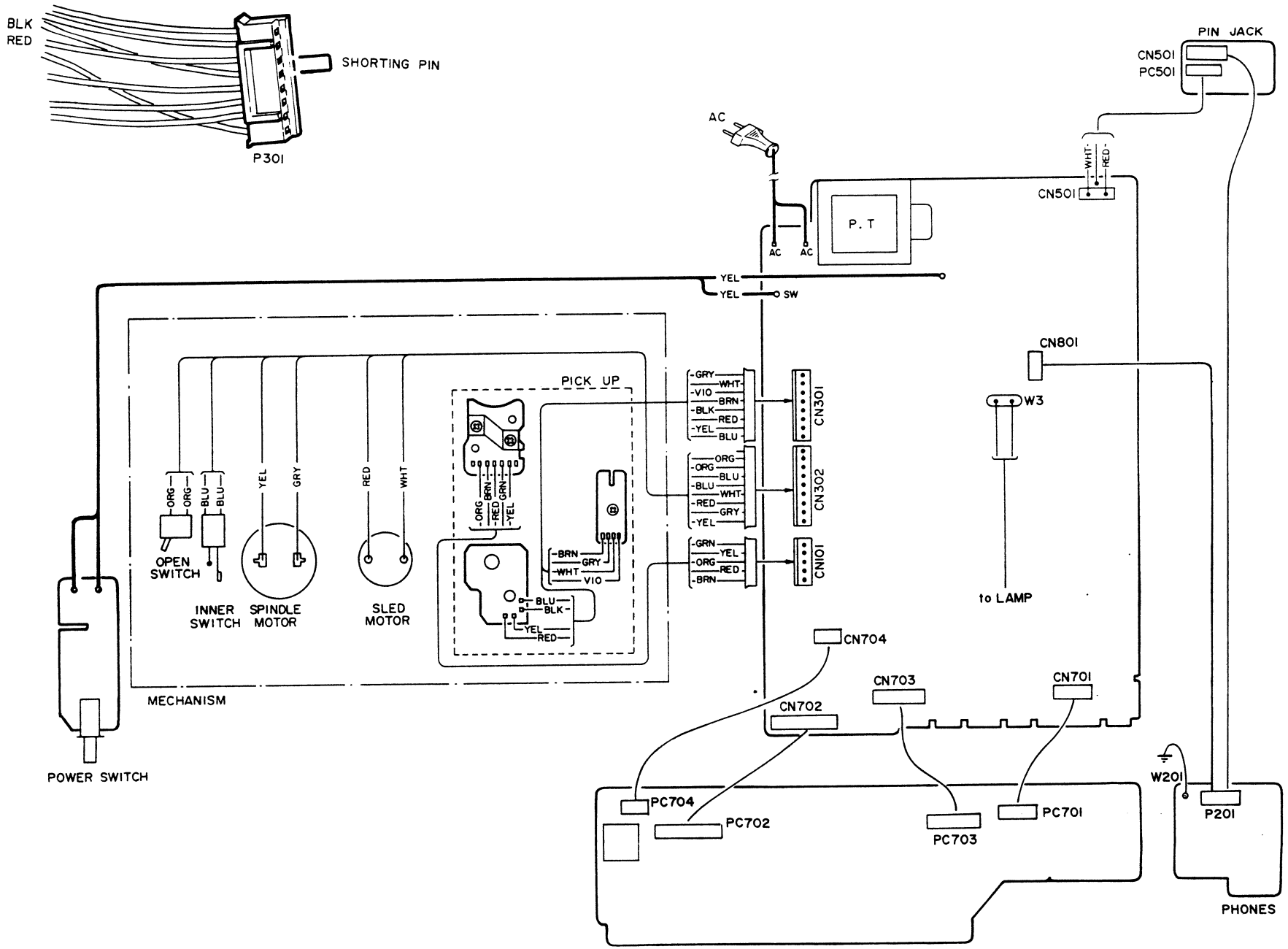


LC 7881 M



IC 5816




BLK
RED
SHORTING PIN
P301
PIN JACK
CN501
PC501
AC
P. T
AC
AC
CN501
WHT
RED
YEL
YEL
SW
CN801
W3
to LAMP
PICK UP
GRY
WHT
VIO
BRN
BLK
RED
YEL
BLU
CN301
ORG
ORG
BLU
BLU
YEL
GRY
RED
WHT
ORG
BRN
RED
GRN
YEL
CN302
BRN
GRY
WHT
VIO
GRN
YEL
ORG
RED
BRN
CN1101
BLU
BLK
YEL
RED
OPEN SWITCH
INNER SWITCH
SPINDLE MOTOR
SLED MOTOR
MECHANISM
POWER SWITCH
CN704
CN703
CN701
CN702
PC704
PC702
PC703
PC701
W201
P201
PHONES

Zusatzplatine

bis Geräte-Nr. 19 701

Wenn bei Geräten bis zur oben genannten Geräte-Nr. CD-Platten mit weniger als 4 Titeln nicht abgetastet werden, sind folgende Änderungen durchzuführen. (Bei Geräten mit einem grünen oder orangefarbenen Aufkleber neben dem Typenschild ist diese Änderung bereits durchgeführt.)

a) Grundplatte ausbauen
b) nach Zeichnung eine Leiterbahn auftrennen
c) Leitungen nach Zeichnung anlöten
d) Grundplatte einbauen
e) Zusatzplatine an die rechte Seitenwand kleben
f) Buchsenleisten mit der Zusatzplatine verbinden
g) Gerät überprüfen

Der Umbausatz (Zusatzplatine + Leitungen) ist unter der Art.-Nr. 283 291 erhältlich.

Es werden zwei unterschiedliche Zusatzplatinen verwendet:

1. Platine bestückt mit 2 IC's
2. Platine bestückt mit 12 IC's
   Bei der 2. Platine entfallen drei Leitungen, siehe Skizze

Die Artikel-Nr. für IC U 401 CXD 1130 Q
bis oben stehender Geräte-Nr. 283 148
ab oben stehender Geräte-Nr. 283 292

Supplementary circuit board

– to instrument number 19 701

Complaint: Compact discs with less than four titles are not scanned.
Remedial measures: CD players in the finished goods stockroom at DUAL are furnished with a supplementary circuit board. All CD players which have been altered in this manner are identified by a green or orange sticker beside the type plate.
Correspondingly numbered CD players for which complaints are received shall be altered as described in the following:

a) The base plate is removed.
b) A conductive track is separated as indicated in the accompanying drawing.
c) The leads are soldered as indicated in the drawing.
d) The base plate is reinstalled.
e) The supplementary circuit board is cemented to the right-hand side wall.
f) The female contact blocks are connected with the supplementary circuit board.
g) The CD player is checked.

The conversion kit (supplementary circuit board and leads) is available under part number 283 291.

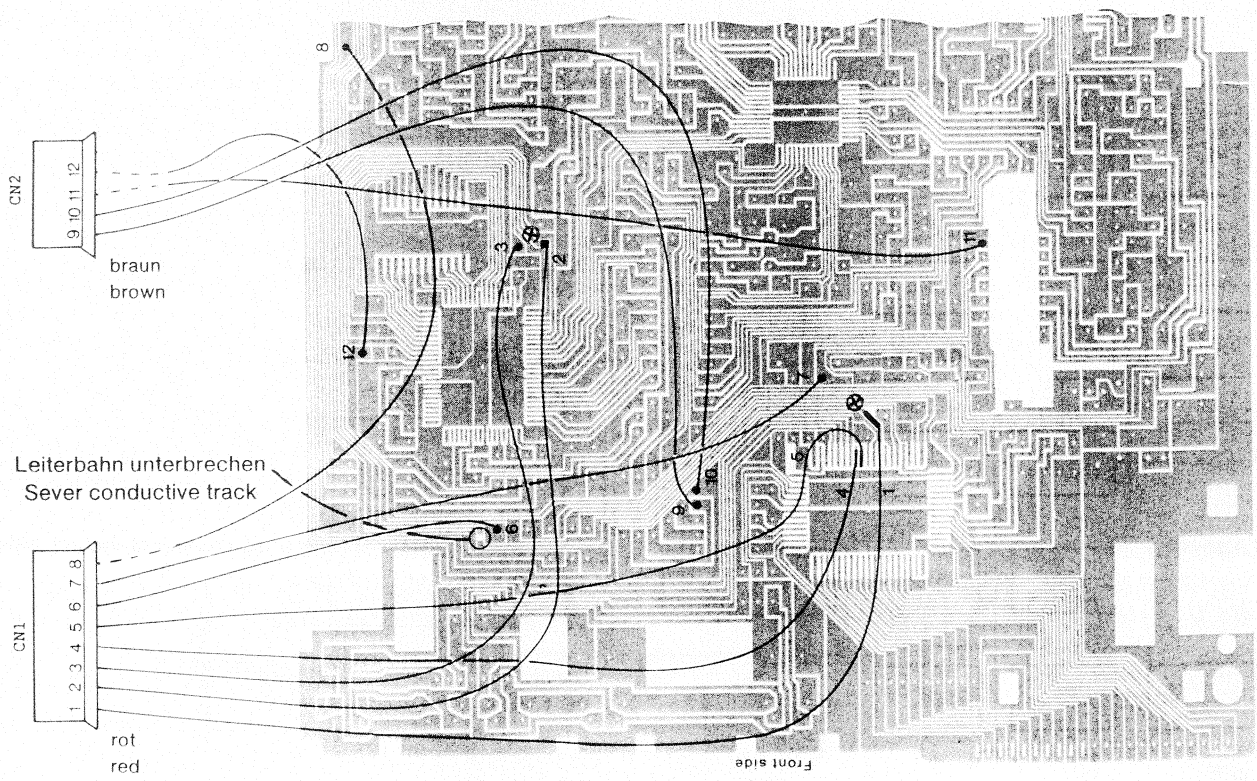
Two different supplementary circuit boards are employed:

1. circuit board equipped with two IC,s;
2. circuit board equipped with twelve IC,s.

Four leads are unnecessary in the case of the second circuit board. Refer to the sketch.

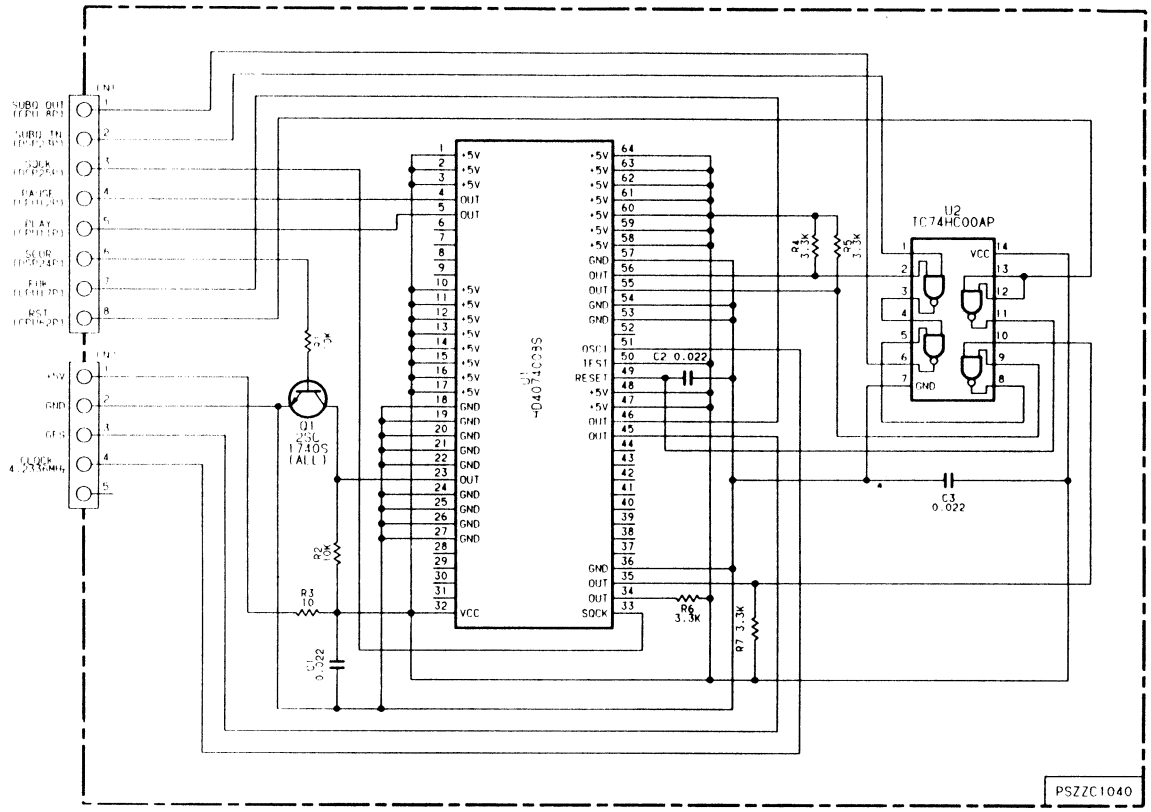
The part number for IC U 401 CXD 1130 Q is 283 148 for CD players up to the number indicated above, and 283 292 for CD players beginning with the number indicated above.

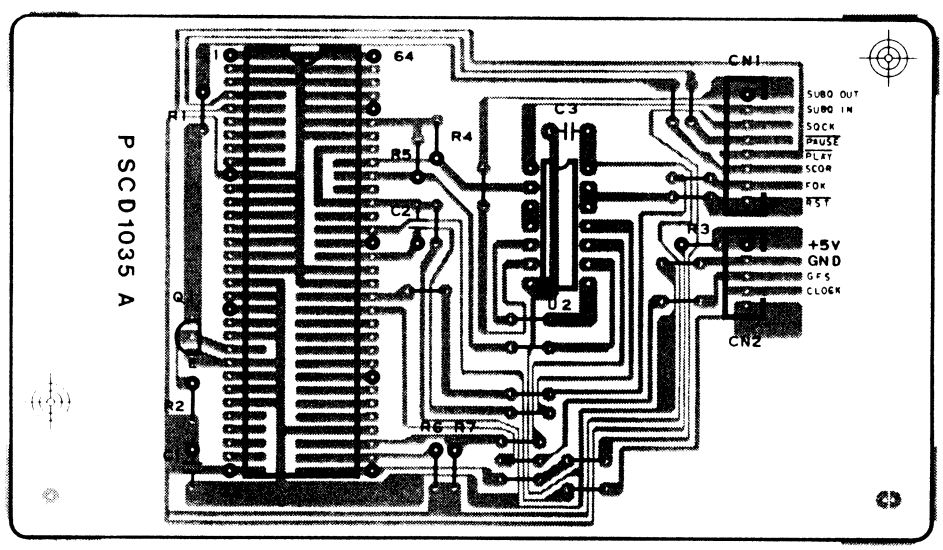
Grundplatte, Leiterseite
Base plate, conductor side



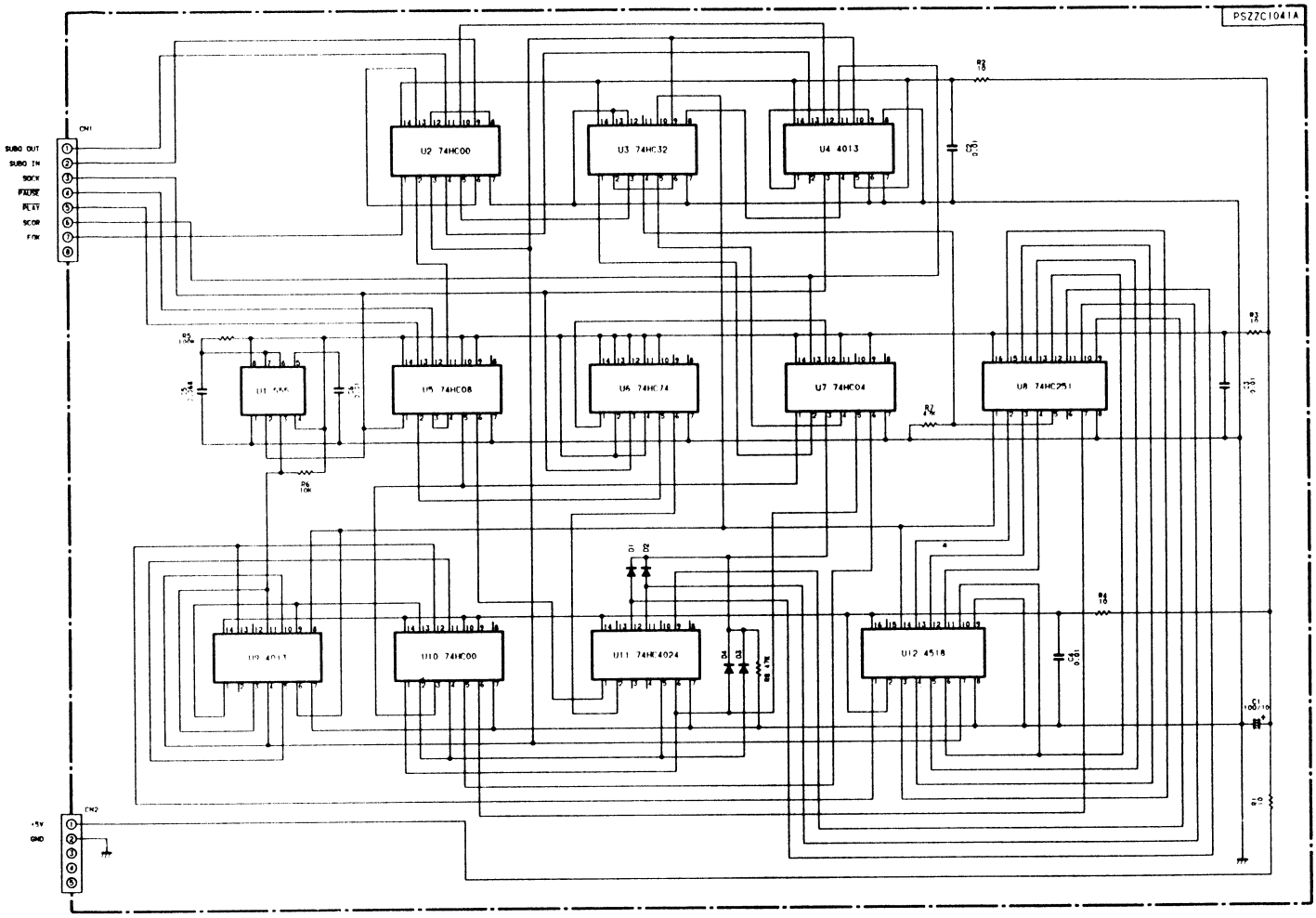
⊗ Eventuell Schutzlack entfernen
Remove protective lacquer, if necessary

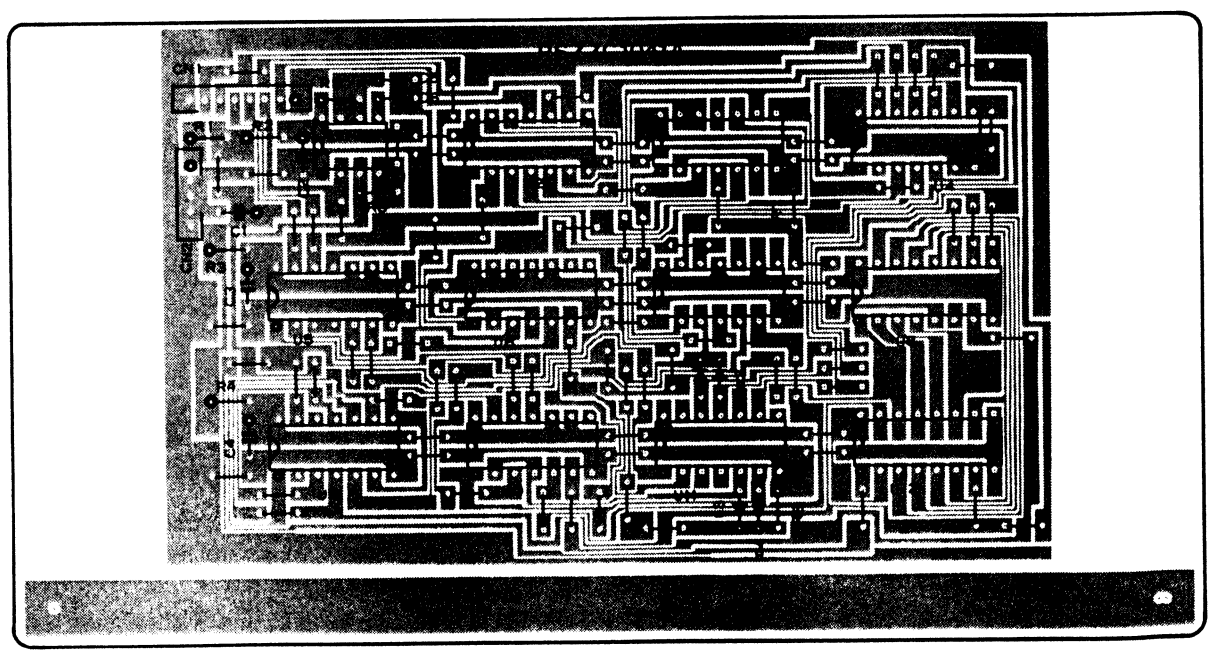
Zusatzplatine 1
Supplementary circuit board 1

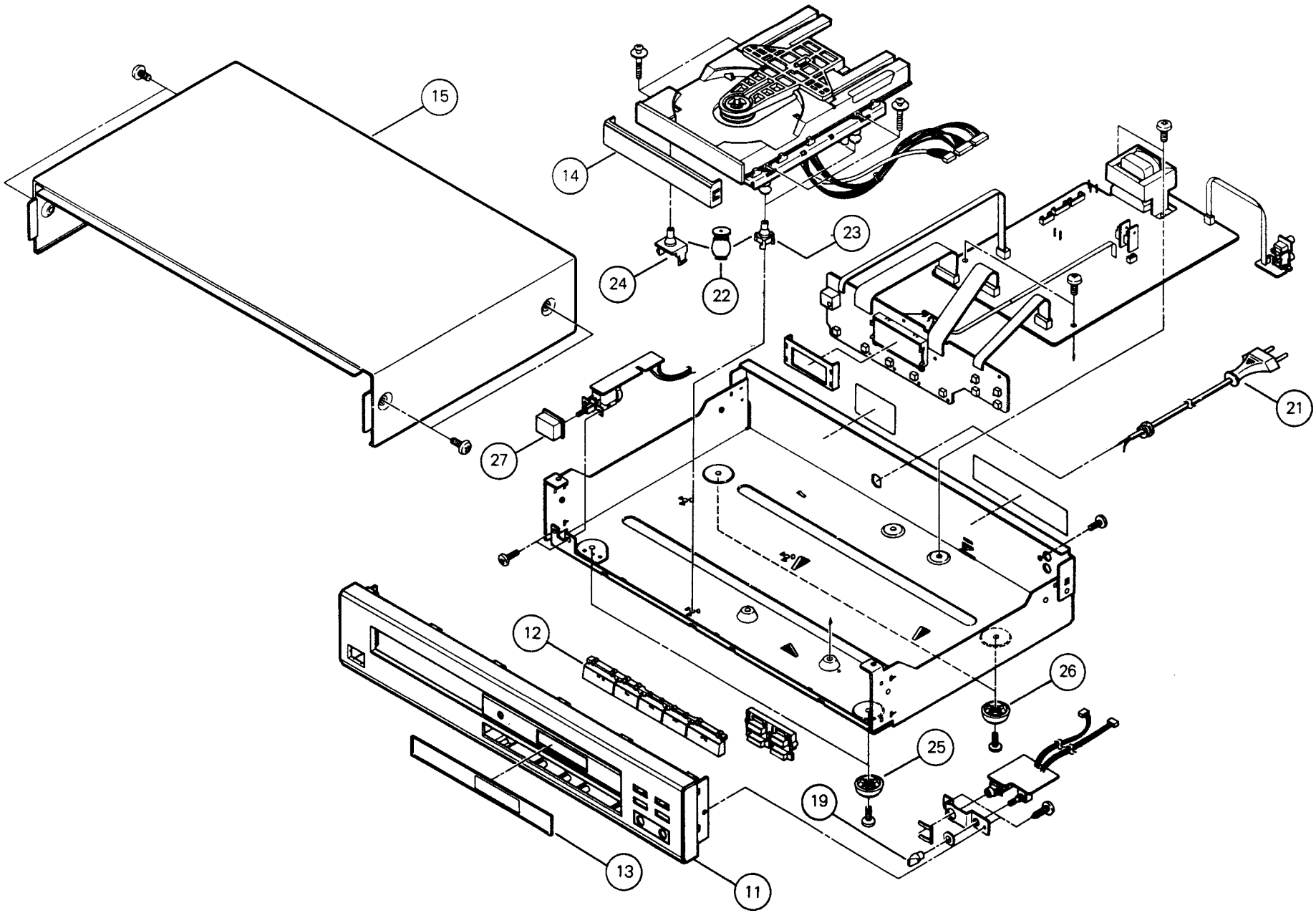




Zusatzplatine 2
Supplementary circuit board 2





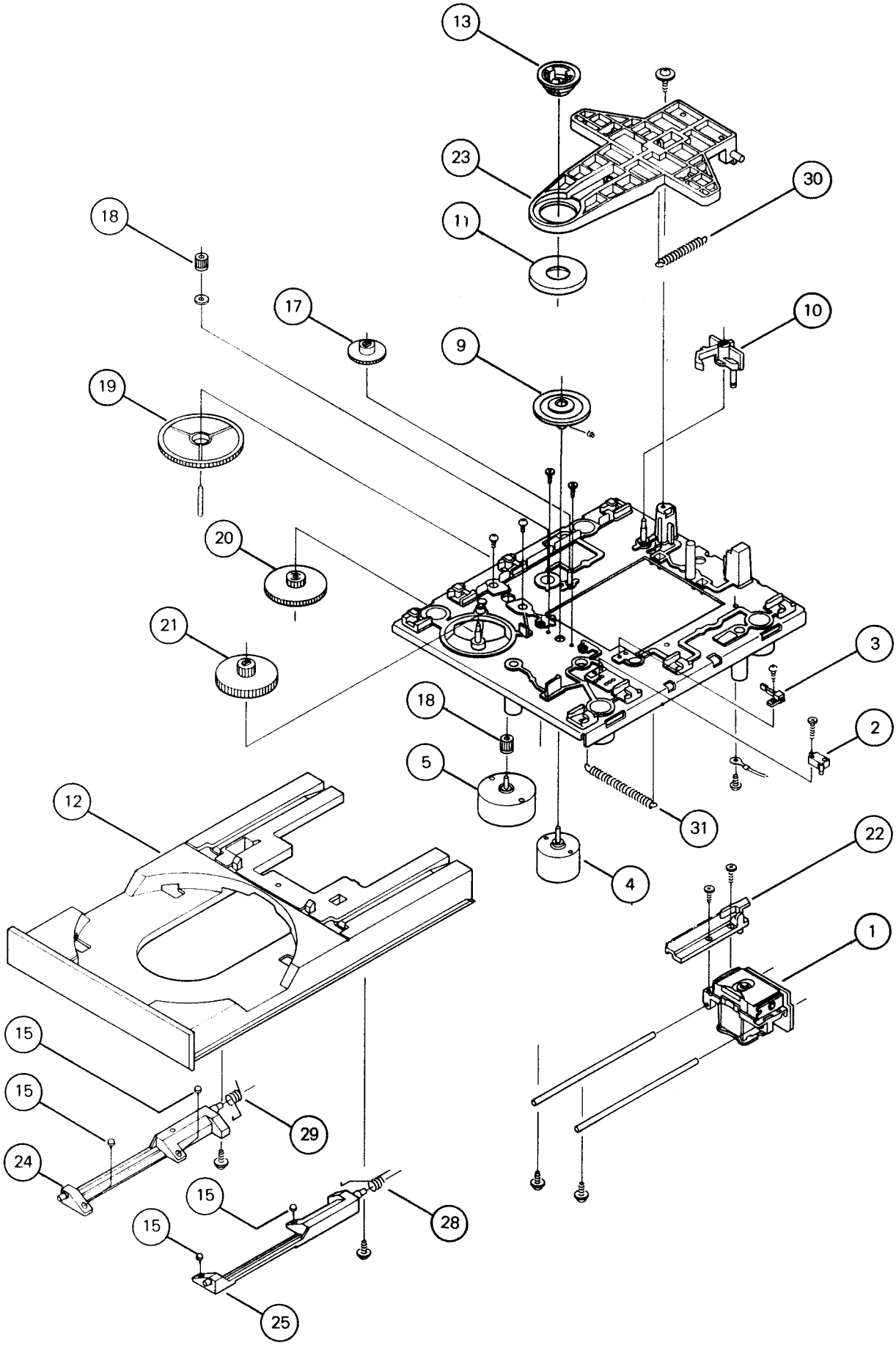

15
14
23
24
22
27
21
12
26
25
19
13
11

Ersatzteile · Replacement parts · Pièces détachées · CD 1028/CD 1035

Pos.	Art.-Nr.	Bezeichnung
11	283 150	Frontblende CD 1035
11	283 151	Frontblende CD 1028
12	283 155	Tastensatz
13	283 157	Fenster CD 1035
13	283 156	Fenster CD 1028
14	283 152	Abdeckung
15	283 310	Gehäuseblech
19	283 154	Knopf Volume
21	232 996	Netzkabel Europa
22	283 306	Dämpfungsteil
23	283 307	Halter
24	283 311	Halter
25	283 308	Fuß vorn
26	283 309	Fuß hinten
27	283 153	Knopf Power
		Displayplatte
SK 1–9	283 137	Schalter
SNS 1	283 118	IR-Empfänger
Z 701	283 161	Display LTP 5Q 6021 A
		Kopfhörerplatte
J 201	283 159	Kopfhörerbuchse
RV 201	283 136	Steller 10 K
U 201	283 140	IC M 5216 P
		Grundplatte
D 301–4	281 494	Diode 1 SS 133 HV
D 401–3	281 494	Diode 1 SS 133 HV
D 806	281 494	Diode 1 SS 133 HV
D 808 bis D 812	281 494	Diode 1 SS 133 HV
D 801–4	283 120	Diode MPG06G
D 805	283 121	Diode MTZJ4.3B
D 807	283 122	Diode MTZJ5.1B
D 810	283 123	Diode MTZJ5.GB
FL 501	283 124	Spule 20 kHz
PT 801	283 139	Netztrafo 220 V/240 V
Q 301	269 146	Transistor 2 SC 1740 S
Q 302	269 146	Transistor 2 SC 1740 S
Q 501/2	269 146	Transistor 2 SC 1740 S
Q 303/5	269 095	Transistor 2 SC 2060 Q
Q 304/6	281 504	Transistor 2 SA 934 R
Q 307/9	283 133	Transistor 2 SC 4040
Q 308 bis Q 310	283 132	Transistor 2 SA 1560
Q 311	281 505	Transistor 2 SA 933 S
Q 402	281 505	Transistor 2 SA 933 S
Q 3/801	281 505	Transistor 2 SA 933 S
RV 101	283 134	Steller 2 K
RV 301	283 135	Steller 20 K

Pos.	Art.-Nr.	Bezeichnung
U 101	283 143	IC CXA 1081 M
U 301	283 144	IC CXA 1082 X
U 401	283 148	IC CXD 1130 Q (CD 1028) (CD 1035 bis Geräte-Nr. 19701)
U 401	283 292	IC CXD 1130 Q Ausführung 2 (CD 1035 ab Geräte-Nr. 19701)
U 402	283 147	IC 5816
U 403	283 145	IC CXP 5024 H CD 1028
U 403	283 146	IC CXP 5086 H CD 1035
U 501	283 149	IC LC 7881 M
U 502/3	283 141	IC AB 15218
U 803	263 160	IC UPC 4558
U 801	271 075	IC NJM 78 M 05 A
U 802	283 142	IC MC 7905 CT
X 401	283 158	Quarz 8. 4672 WHZ
Z 702	283 162	Lampe 6 V/200 MA
SW 801	283 138	Netzschalter
PJ 501	283 160	Cinchbuchse
	283 117	**Mechanik**
1	283 125	Pick up
2	283 168	Schalter
3	283 126	Schalter
4	283 127	Motor Spindle
5	283 128	Motor Load
9	283 129	Plattenteller
10	283 130	Schaltarm
11	283 169	Magnet
12	283 171	Schublade
13	283 170	Disc-Halter
15	283 172	Auflage
17	283 173	Zahnrad
18	283 131	Motorritzel
19	283 174	Zahnrad
20	283 175	Zahnrad
21	283 176	Zahnrad
22	283 177	Zahnstange
23	283 178	Plattenhaltearm
24	283 179	Plattenhalter links
25	283 180	Plattenhalter rechts
28	283 181	Schenkelfeder R
29	283 182	Schenkelfeder L
30	283 183	Zugfeder
31	283 184	Zugfeder
	226 817	Cinchkabel
	283 119	Fernbedienung/Remote control
	282 744	Bedienungsanleitung CD 1028
	282 745	Bedienungsanleitung CD 1035
	283 203	Faltschachtel CD 1028
	283 204	Faltschachtel CD 1035
	283 205	Seitenteil links
	283 206	Seitenteil rechts

Änderungen vorbehalten! Subject to change! Sous réserve de modification!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Der integrierte CD-Spieler arbeitet mit unsichtbarem Laserlicht.

Nicht in den Strahl blicken und nicht dem Strahl aussetzen!

Vorsicht, Laserstrahlung im Inneren des Gerätes!

Zur Vermeidung von Strahlungsschäden darf das Gehäuse nur von qualifiziertem Fachpersonal geöffnet werden.

Informationsetikett auf der Geräterückseite (siehe Bild).

The integrated CD-Player works with invisible laser-light.

Do not look into this beam and don't abandon yourself to radiation.

Attention, Laser-radiation also inside of the unit!

To avoid damages of radiation unit should be opened only by qualified service personnel.

Information label on the rear of unit (see picture).

CLASS 1
LASER PRODUCT

Laser λ = 790 nm
Pmax = 0.5 mW

CAUTION: INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.
ATTENTION: RAYON LASER À L'OUVERTURE ET À L'INHIBITION OU VERROUILLAGE. EVITER TOUTE EXPOSITION AU FAISCEAU.
VORSICHT: UNSICHTBARE LASERSTRAHLUNG TRITT AUS WENN DECKET GEÖFFNET UND WENN SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT IST. NICHT DEM STRAHL AUSSETZEN.